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FIFTH YUGOSLAV GEOGRAPHICAL CONGRESS

Dean S. Rugg
Geographic Attache, Bonn, Germany

The Fifth Congress of Yugoslav Geographers was held in Titograd, Republic of Crna Gora (Montenegro) on September 8-16, 1958. This Congress was the fifth since the war, previous ones having been held in Slovenia-Croatia (1949), Macedonia (1951), Bosnia (1953), and Serbia (1955). The site of each meeting has been shifted to enable geographers to familiarize themselves with as many of the regions of Yugoslavia as possible. The Congress was attended by approximately 200 geographers, a large number of whom were from teachers colleges or secondary schools. The Geographic Institutes at Belgrade, Zagreb, Ljubljana, Sarajevo, and Skopje, however, were well represented; in the case of Belgrade and Ljubljana, members of the Geographic Institutes from the Serbian and Slovenian Academies of Science also participated. This meeting was the first of its kind to be held in Crna Gora and provided an initial opportunity for many Yugoslav geographers to see this interesting part of the country. The Congress was sponsored by the Institute of Higher Education in Cetinje, which is the chief center for geography within the Republic.

The Congress consisted of two parts. The first four days were devoted to papers on various subjects of geography, the majority dealing with Yugoslavia. These papers and the discussions were in Serbo-Croatian. The last five days were utilized for a 600-mile excursion by bus through the major regions of Crna Gora. Many of these regions are rendered very inaccessible by the mountainous topography, much of which is karst.

The opening session consisted of introductions, followed by four papers of general interest. Professor Milojevic, President of the Yugoslav Geographic Council introduced the Honorable Blazo Jovanovic, President of the Executive Council of the Republic of Crna Gora, who gave the official welcome. Professor Milojevic then reviewed the methods applied by geographers in Yugoslavia to field work and research with special emphasis on regional geography. Dr. Milorad Vasovic of Belgrade gave a report on the work of the Council of Yugoslav Geographical Societies since the last Congress. The geography of Crna Gora was discussed by Professor M. Pajkovic of Cetinje, with special attention paid to the development of resources, particularly water power potential, bauxite and coal reserves, forests, and livestock. The last paper of the opening session was by Professor M. Radovanovic of Belgrade. It dealt with the economic importance of the projected standard-gauge railroad from Belgrade to the new port of Bar on the south Adriatic Coast. The speaker emphasized that this line, only a small portion of which is now complete, will shorten the distance between Serbia and the Adriatic in addition to facilitating the exploitation of isolated natural resources. The possibility of electrification

of this line through the development of new hydro-electric plants was also mentioned.

During the next 3½ days, approximately 50 papers were presented by Yugoslav geographers. Most of these papers dealt with Yugoslavia, particularly Crna Gora, and can be grouped under the headings of the sessions held, namely, physical, human, economic, and regional geography.

Geography in Yugoslavia has been greatly influenced by Jovan Cvijic. This world-famous geographer, who died in 1927, was especially renowned for his theories on karst, a landform widely prevalent in the western part of the country, including Montenegro. Several papers were on this subject. In opening a plenary session on physical geography, Professor Josip Roglic of the University of Zagreb presented a paper dealing with the relations between river erosion and the karst process. He summarized various theories or concepts and gave an indication of certain new developments in karst research. Other papers concerning physical geography included such subjects as karst drainage, Pleistocene morphology, ice periods on major Yugoslav rivers, and climatic boundaries in Slovenia. A special plea for land erosion studies as an aid to reclamation projects was made by Zivadin Jovicic of Belgrade. Finally, Vlastimir Tasic, a geologist from Belgrade, presented a new concept for the origin of low mountains located in northern Servia and the Pannonian Basin.

Many geographers in Yugoslavia specialize in human or anthropogeography, which again is an inheritance from J. Cvijic. Several universities have Ethnographic Institutes which specialize in research on such topics as population, settlement, ethnography, and urban geography. Papers on settlement geography included a classification of Yugoslav types, and social factors influencing recent settlement in the Krka "polja" of Dalmatia. The only paper falling in the category of population geography dealt with the effect of marriages on internal Yugoslav population changes. Research methodology and the classification of towns were the subjects of two lectures given on urban geography. Unfortunately, the absence of the author, Ilija Radulovic, owing to sickness, prevented a discussion on Titograd.

In line with the numerous changes in the Yugoslav landscape since the end of the war, economic geography is becoming increasingly important as a subject for research. Thus several papers were presented portraying the effect of increased industrialization on the landscape and on occupational structure within the country. Dr. Svetozar Ilesic of Ljubljana mentioned problems connected with the agrarian landscape and certain methodological approaches to those problems which have been applied in Yugoslavia, especially in Slovania. A paper by Ivan Crkencic of Zagreb complemented the other discussion in its reference to the use of cadastral records as a source of geographical documentation.

Perhaps the largest group of papers was on regional geography. This subject has occupied an important place in Yugoslav geography, particularly under the leadership of Professor B. Z. Milojevic. Most of these papers were not complete studies of regions, but were studies of particular aspects of regions, i.e., topical subjects. Various subjects concerned with the geography of Crna Gora were covered, including climate (by

Dr. Pavle Vujevic of Belgrade, former President of the Yugoslav Geographic Council), drainage, morphology, agriculture, transportation, population, settlement, and urbanization.

Five papers on regional planning were presented. The authors were concerned mostly with the distinction between physical and economic regions, and several attempts were made to delimit the latter for Yugoslavia or the Republics. An example was the presentation by Dr. V. Djuric (Belgrade) of economic divisions for Serbia using present administrative districts as a basis. In general, a chief point brought up during the discussion period was that such economic regions were too often based on physical regions, especially relief, and did not include sufficient reference to historical, social and economic factors.

A few other points regarding the first part of the Congress might be mentioned. The author was invited to present a paper on "Selected Trends in American Geography"; this paper was translated and read by Professor Radovanovic and it generated considerable discussion. Owing to restricted space, there was no formal map exhibit, but a selection of outstanding photographs illustrating the geography of Crna Gora was presented. These photographs were taken by Professor Krusevic of Kotor who is a professional geographer in addition to being a well-known photographer.

Few of the Yugoslav geographers speak fluent English. Perhaps the two outstanding exceptions are Professor Radovanovic (Belgrade) and Dr. Crkvencic (Zagreb). Many of the geographers, however, speak French or German.

The five day excursion throughout Crna Gora included all major sections of the Republic. Well illustrated was the way in which the southern components of the Dinaric Mountains serve to not only isolate the area from the rest of Yugoslavia but also to hinder communications within the major settled areas of Montenegro itself. The participants visited the Titograd region, the western karst regions, the eastern interior regions, and the coastal regions. Perhaps the major contrast observed on the trip was between the mountainous western and eastern parts of the Republic; in the west, the karst landscape predominates, whereas in the eastern areas varied rock-types, forests, surface drainage, and increased settlement testify, in part, to the decreasing influence of limestone.

The first of the regions visited was the town and environs of Titograd. Prior to World War II, Cetinje was the political and cultural capital of Crna Gora. After the War, the somewhat inaccessible location of this town with respect to the rest of the Republic together with its rather small hinterland, led the Federal Government to shift the capital to Titograd. The site of this town was formerly occupied by the village of Podgorica, which was considerably damaged during the occupation period. Since 1949, a new town, comprising government and apartment buildings, theatre, hotel, etc., has been erected and stands in great contrast to the older but rebuilt village across the river.

The Zeta plain south of Titograd is the northern continuation of the Lake Skadar "polje" and is the largest area of level land in Montenegro.

At present, the land use is not very intensive owing to difficulties of summer drought and winter floods. Reclamation measures, however, are underway. The existing land use includes winter pasture and vineyards to the north, tobacco and wheat on the more sandy soils to the south, and meadow land and corn on periodically-inundated soils bordering the Lake. A section of the new Belgrade-Bar Railroad will be built across this plain and actual construction of the portion crossing the northern inlet of Lake Skadar was observed.

The western areas of Montenegro are dominated by karst and the features of this landscape--lack of surface drainage, "polja," "uvale," "doline," "lapiezi," etc.--were quite evident on the excursion. Little land is available for settlement, water is lacking, seasonal floods are frequent, and transportation is a problem. The contrast between productive settled "polja," ringed by "contact line" villages, and the barren surrounding mountains was a dominant impression. In the "polje" of Niksic, observations included karst landforms and activities connected with reclamation, lumber, and bauxite. A visit was made to a large, post-war steel mill just outside the city. Also visited was the smaller "polje" of Cetinje with its many historic buildings connected with the former capital of Crna Gora.

Beyond Niksic, the rugged karst area is gradually replaced by the more diversified mountainous country of interior Montenegro. A night was spent in Zabljak, the highest permanent settlement in Yugoslavia, and a resort area during the summer. Crna Gora has a higher proportion of rough pasture than any part of Yugoslavia and the predominance of sheep was apparent throughout the interior mountains. Evidence of potential for hydro-electric power development was also noticeable. Projects are under construction or planned for the upper reaches of the Tara, Komarnica, and Moraca Rivers. Much of this capacity will be used for the development of aluminum plants, especially a large combine near Titograd.

Other features of the interior are noteworthy. The Tara River gorge illustrates one of the many natural barriers of interior Montenegro, now partially overcome by construction of a post-war highway bridge. Farther along this river in the vicinity of Beograd Lake, the Congress group visited a new Natural Park of Yugoslavia, which is becoming an important holiday-resort area. Settlement is denser along the Lim River, one of Yugoslavia's chief fruit-growing regions. In Ivangrad, post-war developments include coal mining, leather and cellulose works, and sawmills. Following the crossing of the high pass west on Andrijevica, a short visit was made to the historic Moraca Monastery. In this area, the buses followed a new road along the Moraca River which will eventually be part of a main route linking Belgrade with Crna Gora and the Adriatic.

The final region visited by the excursion was the coast, dominated by the impressive fjord-like Bay of Kotor. Other highlights included the road up Mt. Lovcen with its 24 serpentines, the walled town of Budva, and the new port of Bar. This section of the Adriatic coast, characterized by Mediterranean climate and scenic beauty, is being developed as a resort-area.

The Fifth Yugoslav Geographical Congress was a very successful

meeting, serving to introduce many geographers to a rather isolated but important part of the country, and providing an opportunity for participants from the Republics to present the results of recent research. Professor Pajkovic and the geographers from Cetinje deserve much credit for planning such a stimulating meeting. (Note: The author is indebted to Professor Borivoje Z. Milojevic, President of the Serbian Geographical Society for the invitation to the meeting, and to Professor Mihailo S. Radovanovic of the University of Belgrade for assistance in interpreting and for explanations of the excursion.)

REMARKS ON THE PRESENTATION OF PAPERS

Preston E. James
Syracuse University

Professional geographers are something less than skillful in the presentation of the results of their research to other professional geographers. We can only hope that they are better in the classroom than they are at professional meetings. This is not a new situation, nor is this lack of skill limited to American geographers. Comments on the bad delivery of papers differ only in the vehemence of the language; yet, like the weather, no one seems to do anything about it. With what rationalization do our colleagues satisfy themselves that to do a good job of presenting the results of research is not worth the effort?

After some considerable experience with the matter, the writer would like to offer three suggestions. These suggestions presuppose that a proper piece of research has been done, that the results have been reached by scholarly methods, and that they are worth communicating to other geographers. The suggestions are based on a fundamental principle: that more can be communicated through the eye than through the ear, because the image of things seen is retained more clearly on the mind than the sound of things heard. Also, it is assumed that the delivery is from a manuscript read aloud. Of course any one who has the rare capacity to speak clearly, concisely, and without digression from a carefully conceived outline, is usually more effective than a person who reads from a manuscript poorly. But to do this within a precise time limit is very difficult, especially for beginners. In any case, whether spoken or read aloud, the principles of effective presentation are the same.

1. A paper that is to be read aloud must be prepared specifically for this purpose. A research report, prepared for publication, is totally unsuited for oral presentation. It is essential to rewrite the paper with certain basic principles in mind. No matter what the time limit, the number and complexity of ideas that can be communicated orally are less than those that can be communicated in a published paper. Furthermore, the flow of ideas must not be interrupted by digressions that are not essential to the central theme. To be understood by an audience a paper must start with a simple, brief statement of what the paper is about, what is its

central theme, what conclusions does it reach. The listener must be brought back again and again to the central theme through the use of repetitive words and phrases - a kind of repetition that would be quite undesirable in a published paper. Each new idea, starting a new paragraph, should be presented in a topic sentence that refers back to the central theme. At the end, the basic message must be briefly summarized. This means careful outlining, and for most research reports it means selecting only a part of the results for oral presentation.

In the usual time available at a professional meeting - twenty minutes or less - there is no time for digression. In a longer presentation, however, it is necessary to keep in mind that even our professional colleagues have a limited attention span. Longer papers should be interrupted, perhaps at mid point, by a comic relief. But then the audience should be carefully brought back again to the central theme.

2. Practice the delivery of the paper in advance. If the paper is to be delivered orally from a manuscript it is especially important to learn how to read slowly, distinctly, and with emphasis on the right words and sentences. Pauses need to be inserted at the ends of paragraphs. All this must be done within the set time limit. To run over the allotted time is embarrassing for the presiding officer, and thoughtless and impolite to the other speakers on the program. When a speaker, being informed of the approaching limit of his time, rapidly eliminates whole paragraphs, the continuity of ideas is destroyed.

These various difficulties can be avoided by practicing the delivery in advance. In a few university departments training in presentation is a regular part of a graduate program, and both staff and students who are planning to deliver papers at a professional meeting read them in advance at a practice session. As a result some departments are noted for the excellence of their papers.

3. Prepare visual materials properly. Most professional papers are accompanied by maps and photographs. Yet strange as it may seem, this is an aspect of presentation in which geographers most frequently fail. How many, many times have we heard this remark: "You probably cannot see this map, but it shows . . ." There is no possible excuse for a professional geographer putting a map before an audience that is not clearly visible from the back of the room for a person with normal vision. We all know that rooms vary in size, and the size is not always known in advance. If we prepare maps to be visible at 100 feet we cannot be far off in an ordinary meeting place. If you are not certain whether a map is visible at this distance, try it. No map prepared for publication is suitable for use at a professional meeting. Maps, like the text, should be simplified, and the symbols made clear. It is especially important that the legend be redrawn. To be visible at 100 feet, lettering should be at least two inches high, and suitably thick and also suitably spaced.

Generally the most effective way to present a map in a large room is by means of a lantern slide. But even the best map that is ready for publication is unsuited for reproduction on a slide. Legends are regularly too small when projected on a screen, even if the map symbols come out

clearly without alteration. Legends must be redrawn and greatly enlarged. Some useful guidelines for slide preparation appeared in the article by Robert M. Basile, The Professional Geographer, Vol. IX, No. 6, November 1957. The best way to be sure that slides are visible is to try them out in advance.

When delivering a paper, a speaker often wants to point to some feature on the accompanying maps or photographs. But it is now customary for the reading stand to be equipped with a stationary microphone. When a speaker turns away from the microphone his voice is lost, and the attention of his audience is diverted. If the speaker takes the trouble beforehand to place a conspicuous arrow on the slide, pointing to the features being discussed, then there is no need to turn away from the microphone.

A speaker should also be careful to see that the slides are clean and in correct order. Each should be carefully marked so that the operator knows how to insert it in the lantern. The place of each map or picture can be noted on the manuscript.

These are a few of the suggestions that would make the presentation of papers much more effective. The suggestions are not difficult to adopt. Yet it is the common neglect of these principles that so frequently frustrates efforts at professional communication. Is it too much to insist that speakers on our professional programs pay more attention to such basic skills?

SOME COMMENTS ON STONE LINES - A REPLY

James F. Woodruff, San Diego State College, &
Eldon J. Parizek, University of Kansas City

The origin of stone lines in the soils of the Southeastern United States has been the subject of a number of papers (Kerr, 1881; Ireland, Sharpe, and Eargle, 1939; Parizek and Woodruff, 1957). The most recent attempt to explain these features was presented before the Association of American Geographers' meeting in Santa Monica, California, and abstracted in the Annals (September 1958, p. 257). This explanation is of interest to the writers because it is an idea previously considered by them and rejected on the basis of contradictory field evidence. It appears desirable to comment on this latest paper dealing with stone lines because of the skeptical reference to the theory advanced by the writer of this reply. Unfortunately these comments must be based solely upon the abstract as published in the Annals since neither of the writers was present at the reading of the paper and a subsequent attempt to obtain a copy of the paper was unsuccessful.

The abstract states: "Recent field research in the Piedmont area of Georgia indicates some distinct characteristics of these stone lines not previously recorded in the literature." What these previously undescribed features are is not indicated. The present writers spent more than three years in field and laboratory work upon this problem, in the course of

which they visited several hundred exposures with stone lines in the Piedmont of Georgia and the Carolinas. All stone line locations were mapped planemetrically and many of them topographically to determine the possible existence of distribution patterns or accordances in elevations. The research also included: (1) microscopic examination of materials super and subjacent to the stone lines for organic materials, (2) thin sections studies and roundness and sphericity ratios of numerous stone line fragments and, (3) fabric studies of stone lines in the field. Therefore, reference in the abstract to ". . . distinct characteristics . . . not previously recorded in the literature" creates a curiosity as yet unsatisfied. Further uncertainty is created by the statement that "Study . . . does not seem to justify the cumbersome theory of Parizek and Woodruff which would require a type of mass movement as yet not adequately described," for the theory referred to attributes the formation of stone lines to colluviation, sheet erosion, wind deflation, and frost action; processes which can hardly be characterized as inadequately described in the literature. While the objections raised thus far may be relatively inconsequential, the present writers must take vigorous exception to the conclusions drawn by the abstract since they are so obviously contradicted by field evidence, and because to accept them would preclude the possibility that these features are of any geomorphic significance.

The crux of this latest attempt to explain the origin of stone lines is that they are ". . . nearly always found in the regolithic layers of extremely deep weathering over crystalline rocks and extensive study seems to justify the claim that they are probably remnant phenomena in situ rather than transported materials. . . . Field evidence indicates that these stone lines are highly weathered remnants of lenses or layers of rock within the regolith which have resisted the deep weathering more successfully than the remainder of the layer."

These statements are refuted by the following facts, all of which, with the exception of the last, are readily observable in the field:

1. Stone lines are not essentially restricted to the regolithic layer, in fact, a large percentage are found above completely weathered clays devoid of any relic foliation and many have been observed resting directly upon the surface of the bedrock and covered by unconsolidated materials.

2. In the paper by the writers (1957, p. 29) it is stated, "A genetic relationship is immediately suggested by the similarity in appearance of some stone lines and magmatic quartz veins in the bedrock. Field studies, however, reveal several factors which refute such a correlation." The prevailing horizontal attitude of stone lines is contrary to the generally high angle dip of magmatic structures and to the intricately folded schists, and migmatites which comprise the subjacent bedrock. In fact the stone lines in a number of exposures truncate the underlying bedrock to the extent that they bear a remarkable resemblance to the idealized concept of an erosional unconformity.

3. The tendency of stone lines to have a similar overall shape is contrary to a development dependent upon weathering in situ, for how this repetitive pattern could have been produced time and time again by such

a process is difficult to conceive.

4. The complete absence of relic bedrock structures in materials overlying stone lines cannot be reconciled with numerous weathered exposures in the Piedmont in which stone lines do not occur. In the latter the materials overlying bedrock frequently have been altered to a saprolitic condition, in which the original bedrock foliation and lineation are clearly visible from the C- horizon to the surface. In view of the hundreds of stone lines examined by the writers, they doubt that relic structures above the stone lines would in every case be completely obliterated by weathering should they be only resistant remnants.

5. As would be expected a large percentage of the fragments comprising all stone lines are quartzose, and some are formed entirely of quartz particles. However, it is significant that others are composed in part of such rock fragments as granite gneiss, granodiorite, quartzite, and even ferruginous nodules, for it is incredible that such a heterogeneous mixture of rock types could represent a resistant "lense or layer" in situ.

6. A subsurface origin for stone lines is strongly refuted by the occasional presence in the layers of highly rounded fragments. This has been noted in stones up to four inches in diameter and is evidence that some fragments have been transported. Cardinal evidence for a surface origin of stone lines is an exposure in Clarke County, Georgia, in which water rounded gravels are covered by more than ten feet of non-fluvial deposits similar in all aspects to the materials covering stone lines. Most significant at this location is the presence of a well developed stone line overlying the gravel deposit. Irrefutably, no subsurface origin could account for this sequence.

7. While previous work, other than that of the writers, attempted to relate the origin of stone lines to some subsurface process, no one suggested that stone lines were merely weathered remnants in the soils. As early as 1881, Kerr (p. 346) suggested that "rearrangement of the particles had taken place . . . (during glacial climates) . . . with an aggregation of coarser particles of the bed towards the bottom along horizontal lines." Ireland, Sharpe, and Eargle (1939) attributed their origin to subsurface movements accompanying soil creep. Thus, while disagreeing as to the rearranging agent, all previous work agreed that some movement had been involved in the alignment of the particles.

In light of the points enumerated above it is apparent that the conclusions of this latest paper on stone lines are superficial and erroneous. Perhaps had this "extensive study" been more intensive a significant contribution to the literature on this feature of Piedmont soils would have resulted.

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CURRENT GEOGRAPHIC THOUGHT IN THE GERMAN LANGUAGE AREA

Hans Carol
Zurick University and Clark University

Geography in Germany, Austria and Switzerland bristles with problems, any one of which would be worth tracing. This article, however, shall be restricted to certain basic methodological questions that have provided a puzzling discussion in the German speaking area.

In the German language area methodological thinking focuses round the term "Landschaft." One says: "Landschaft" is the object of geography, and, geography is "Landschaftskunde," the science of "Landschaft." But the trouble is that the word "Landschaft" is widely used in the vernacular as well as in geography and has acquired a dozen different meanings. The most important ones for us are (a) "Landschaft" in the popular sense of scenery, landscape; (b) "Landschaft" (the so-called geographic "Landschaft") in the sense of a nature-given spacial entity, "natural region." Hartshorne calls "Landschaft" the "single most important word in German geographic language and the confusion it has caused has penetrated into every field of geographic thought." He therefore rightly feels it would be of no use to introduce the term to English speaking geographers.

In reviewing the pertinent publications of the last decade our attention shall be restricted to a few. (References at the end of the article.) C. Troll (Bonn) summarizes the various kinds of thought up to 1950. He says that in recent times geographers shifted emphasis from the study of singular problems to the complex understanding of the "Erdhulle" (referred to by Hartshorne in his newest publication as the "earth shell"). Troll's opinion is that the earth shell is divided into spatial units, into "Landschaften." In them, he says, geography has found an object of its own. He defines "Landschaft" as did Burger (1935), namely as a spatial unit of a definite character, a nature-given entity limited by natural boundaries, and different from neighboring units. J. Schultze (Berlin) emphasizes this opinion by saying that today in all languages geographic "Landschaft" (landscape, paysage) is understood as a unity of earth space with natural boundaries. (The only trouble is that these so-called nature-given boundaries, drawn by different geographers, never match.) E. Obst (Hannover) proposes a systematic classification of "Landschaften" starting with individuals through species, genus, families to classes. In our opinion, because of the evident difference between organisms (as well-defined biological individuals) on one side and the continuous nature of the earth shell on the

other, no such classification is possible.

H. Bobek and J. Schmithusen (Vienna and Karlsruhe) introduce the term "geographische substanz" (geographic substance) from the Russian geographer A. Grigorev, and distinguish "Land," meaning any individual part of the earth shell, a true reality, such as the Alps, from "Landschaft," meaning a type of such "Land," such as the Alpine mountain type. H. Lautensach (Stuttgart) carries the ideas of Bobek and Schmithusen further. The geographic substance, viewed idiographically, focussing on the individuality of areas, on "Land," "Lander," is the field of "Landerkunde." To focus on the geographic substance with a generic point of view is the field of "Landschaftskunde." Thus, Lautensach as Bobek and Schmithusen, uses the term "Land" for any individual part of the geographic substance, "Landschaft" for a type of the geographic substance. In discussing the problem of delimiting "Lander" and "Landschaften" Lautensach follows the ideas of Hettner, Hartshorne and Schmitthenner. H. Schmitthenner (Marburg) does away completely with "Landschaft" as a natural space entity, and clearly points out that this concept is nothing more than a hypothesis and not of much value. He follows Hartshorne who said, "We not only have not yet discovered and established regions as real entities, but we have no reason ever to expect to do so." In American Geography - Inventory and Prospect, Whittlesey and his committee state, "Acceptance of the region as objective reality has been increasingly criticized by geographers, and it is flatly rejected in this book . . ." On the other hand Schmitthenner uses the word "Landschaft" in the same way Hettner did, namely in the series: continent, countries, "Landschaften," localities. Here "Landschaft" again has an entirely different sense: a certain areal size.

At Zurich University, Switzerland, we very strongly felt the need of clarifying terms and thoughts for guiding our own work as well as contributing to the general discussion on geography. In a number of articles by H. Boesch and myself we considered these many points of view. First of all, we found that there can be no such thing as a "Landschaft" in the sense of a nature-given entity of space. We discovered that there was not one but two (and possibly more) different kinds of "regions" which do not coincide. One kind we have called formal units, the other functional units. The next step was to apply this idea to concrete studies in Africa, and America, as well as in our field camps. More and more we became aware of the need of a precise definition of what exactly is the object of geography on the one side and what are the methods of studying this object on the other. This led to the terms "geosphere" and "geomer" for the object, and to the terms "systems of approach" and "directions of approach" for the geographic methods. One of our students, O. Wernli, published in 1958 his doctoral dissertation on the evolution of the concept of "Landschaft" from the time of Burger's dissertation in the early 1930's to the present day.

Two years ago I discussed these questions with E. Neef (Leipzig) in Munich, and we formulated 10 points which were published in Petermann's Geographische Mitteilungen. In concluding this review on current geo-

graphic thought in the German language area, I will follow approximately these 10 points.

1. The bewildering contradictions in geographic science result a good deal from the fact that many scholars are not conscious of what is their object of study on the one hand and their methods on the other. Some see the term "Landschaft" ("natural region") as a reality; some as an intellectual concept ("total region"), and some mix the two. If we are to have some order in the field of academic geography we will have to distinguish clearly between the total reality of the object and the methods used for the scientific study of that reality. So, first of all, in points 2 to 6 we deal with the object of geography.

2. The object is "the space near the surface of the earth," the "geographic substance," the "earth shell" (Erdhulle), or more generally, the geosphere. It is this space where lithosphere, atmosphere and hydrosphere touch and penetrate. Because of this peculiar situation organic life (biosphere) could develop and human culture (anthroposphere) evolve. All that exists, both natural and cultural phenomena, constitute the geosphere.

3. These five spheres are not isolated; on the contrary, they form specific integrations, most prominent at or near the earth's surface.

4. The geosphere is a continuous entity, highly differentiated from place to place. But the individual spheres do not differ at the same spot, not being caused by the same factors; therefore the geosphere is not naturally divided in a single given set of spatial entities of "Landschaften," or "natural regions."

5. For practical reasons geographers mostly do not deal with the geosphere as a whole--they study smaller parts of it--continents, countries, parts of countries. Instead of searching in vain for a "natural" or logical system of subdivision, we say that any division may sort out a portion of the geosphere which is convenient for the purpose of the study. Such a vertical segment of the geosphere we call a geomer, which literally means a part of the geosphere. Examples: Geomer of the United States, of the Appalachians, of the Ohio basin, of the city of Pittsburgh, or even of any part of the city, provided we include all the existing spheres, from the rock underneath, the water body, the atmosphere, natural life, humans and their activities.

6. Geomers have developed in time. They have a time of origin, a time of development and a future status. Time therefore is the inherent fourth dimension.

Points 2 to 6 refer to a specific reality. The following four points are concerned with geography as the science of that reality.

7. As geology studies the lithosphere, biology the biosphere, geography is the field which is best prepared to cope with the geosphere as a whole, or with its parts, the geomers. The bewilderingly complex nature of this kind of reality may frighten us, but it exists--and therefore it has to be studied.

8. One of the main intellectual processes in every science is to establish specific rules, which allow us to reduce the infinite mass of phe-

nomena to the essentials, and to a manageable size. The primary points of view, from which we select pertinent aspects of a given geomer, we call systems of approach, such as inorganic geography, organic geography, cultural geography and its many subdivisions.

9. Within the systems of approach we distinguish secondarily, the directions of approach. They permit us to map, for example, various kinds of complex units, such as uniform regions or formal units, nodal regions, or functional units. These units may be seen either as individuals or as types.

10. Scientific methods for studying a given reality are necessarily partial. They exclude totality and therefore the concept of "total region" is of no scientific value. Exact analytical work may lead us to a point where a synthetizing process may take place in our mind, where an image may be formed, approximately reality and thus leading to its understanding.

To sum up the discussion on the term "Landschaft," its meanings may now be fixed more critically. By most German speaking geographers, "Landschaft," in the sense of a nature-given spatial entity (natural region) is thought to be a reality such as an organism and to be the object of geography. But as many scholars realize, such a thing does not exist. "Landschaft," in the sense of "Landschaftstyp" (total region) is not meant to be a reality but a very complex intellectual concept. As many students have found, such a concept is of little use. Therefore, the term "Landschaft" should either be discarded in scientific geography--or its meaning should be fixed in a more realistic way, namely in the sense of geomer.

In the previous pages emphasis was on the differences of the various opinions, while to conclude it seems useful to point to the common traits. The same content of the basic object of geography, which is fixed by the new terms geosphere and geomer can be recognized in various German terms, such as Erdhulle, geographische Substanz, Land. A similar content is also found in various expressions of American geographers: "area," "terrestrial space" (James); "space at or near the earth's surface," "complex association of phenomena on the face of the earth" (Whittlesey); "the content of space on the earth's surface, together with the space relations of the features and phenomena occurring in that space" (Ackerman); "the totality of interrelated phenomena in a particular area" (Hartshorne, 1939) or much clearer and more precise, "the earth shell" (Hartshorne, 1959).

It is hoped that by arriving at a clear understanding of the basic object of geography, and by agreeing to use internationally acceptable terms for that object, geography as a science will progress more methodically.

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A SIGNIFICANT NEW SOVIET PERIODICAL

David J. M. Hooson
University of Maryland

The birth of a geographical periodical these days is an event rare enough to attract the attention of the profession, especially when it is accompanied by a precise editorial statement laying down particular philosophical and practical foundations for future policy. The title of the first geographical periodical to be launched in the Soviet Union in the post-Stalin era is "Geography and the Economy" /Geografiia i khoziaistvo (Moskovskii gosudarstvennyy universitet im Lomonosova. Geograficheskii fakul 'tet.) No. 1 (Moscow 1958) 65 pp./. It is issued from the "Geographical Faculty" of Moscow University, much the largest in the country. The pervading themes in the policy statement are (1) the necessity for effective integration between physical and economic geography and for the recognition of their philosophical unity; (2) the need for increasing the relevance of geographical research to the development of the economy and for publicizing the significance of the geographical approach more effectively outside the profession. These aims are regarded as interdependent.

The "unity" plank in the platform stems from the long controversy on this question, in which, in some ways, Moscow University's Geographical Faculty and the Academy of Sciences' Institute of Geography have been opposite rallying points. (See D. J. M. Hooson. "Some recent developments in the content and theory of Soviet geography." Annals A.A.G., Vol. 49 (1959), pp. 73-82.) The editor-in-chief of the new journal is V. A. Anuchin, a vigorous protagonist of geographical unity, while others on the editorial board are N. N. Baranskii and Iu G. Saushkin, long known for their influential advocacy of unity, the Dean of the Faculty, A. M. Riabchikov, and several other geographers, such as V. G. Konovalenko, T. V. Zvonkova and K. V. Zvorikin, drawn from a variety of topical specialities.

Alongside the affirmation of a unified approach the editors have lodged a strong protest against the "discrediting" of geography in the latest edition of the "U.S.S.R." volume of the "Great Soviet Encyclopaedia," in which it is passed off as just physical geography, and this episode may well have been the cause of the birth of the new journal at this particular time. In any case, the journal embodies the first explicit mobilization of "integrationist" opinion and the debate has entered on a new phase, in which precept seems likely to give way to example to some extent.

The second theme, that of a more practical relevance of geography to the economy, owes a good deal to recent pronouncements by Khrushchev, who is quoted more than once in the preface. In fact the editors say that the title itself, "Geography and the Economy," was inspired by his statement on the need for higher education and its practitioners to keep more in touch with the productive processes. The editors conclude that "the greatest task of geographical science in the present stage of its development" is the "whole" study of regions, leading to economic appraisal of

them and finally to suggestions for rational use. Thus the two themes coalesce.

The majority of the articles in the first number apply these principles effectively. Instead of being a collection of physical and economic articles in their watertight compartments, they concentrate especially on the no man's land between these two branches, hitherto largely unexplored by Soviet geographers. Specific subjects treated "whole" in this way range from agricultural topics to road building and the construction industries. Physico-geographical regions come in for theoretical discussion as well as a geographical appraisal of a specific industrial center, and the recently publicized subject of "irrational shipments." Fortunately the "practicality" rule is not so severe as to exclude reviews of theoretical works, news of students' contacts abroad, etc.

This new periodical ought further to enhance the stature of geography in the Soviet Union and add vigorous cross-currents to methodological discussion as well as basic knowledge in neglected fields.

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ASSOCIATION AFFAIRS

Summaries of Informal Panel Discussions
AAG 1959 Annual Meeting, Pittsburgh
(Other summaries appeared in The Professional Geographer, May 1959)

Experience with Electronic Computers in Geographic Research

Howard G. Roepke, presiding; Wm. Garrison, moderator;
Brian Berry, Wm. Fay, Edwin Thomas, Wm. Warntz, panelists

Brian Berry opened the discussion, reporting on the use of IBM and electronic computers in classification problems involving the analysis of characteristics and the derivation of class intervals. In the first instance, the analysis of characteristics, a correlation matrix is prepared (a table of correlations of each individual with every other individual). In this procedure, electronic computers showed a marked savings of time and money over IBM machines; 1225 correlation coefficients take some seven hours with the latter device, about five minutes with the former. Procedures for the derivation of class intervals by use of computers are not yet well established; techniques are lacking particularly when the problem involves the inductive and empirical search for the number of groups present. Nevertheless, computers have proved their work in classification problems and are being used specifically in problems of central place and business district hierarchies, analysis of underdeveloped areas, characteristics of rural occupance of flood plains, etc.

The Bureau of the Census, William Fay reported, is also making increased use of computers and computer-associated devices. The Bureau now has a tape-fed Univac, a FOSDIC (Photographic Optical Sensing Device for Input to Computers) and a high speed printer capable of recording 120 characters a second. New FOSDIC forms, capable of being microfilmed and directly converted to tape for the Univac, will eliminate all punch card work and speed the issuance of census reports. It is estimated that the new techniques will permit the publication of the next Census of Population by the end of 1960. The Bureau also employs the computer in the preparation of numerical and geographical lists of enumeration districts and is considering using the machines for determining the areas of minor civil divisions and for the computation of the center of population of the United States.

Edwin Thomas discussed the use of the IBM 650 by the department at the State University of Iowa in pursuing their primary interest of quantitative research in geography. That research has centered on three types of questions: (1) the determination of spatial relationships, (2) the delimitation of homogeneous limited-factor regions, and (3) the recognition of broader regional divisions consequent upon the results of (1) and (2).

Work in the department and utilization of the IBM machine, has primarily centered on multiple regression analysis, followed by the mapping of residuals from regressions. This technique permits the testing of initial hypotheses through the creation of distributions independent of what has been put in the analysis. The result is a recognition of truths not otherwise easily discernible. The mechanics of this research procedure have now been simplified in the department through the preparation of a written program for the IBM computer.

William Warntz cautioned against the use of computers merely to calculate meaningless correlations, but stressed their value in the derivation of macrogeographic distributions. Interest in such spatially significant continuous distributions is a natural outgrowth of the geographer's earlier concern with the dot map (microgeographic distribution) and the density map. Such macrogeographic distributions as population potentials, aggregate travel, centers of gravity, etc., are presented in the form of contour maps. These maps may be produced directly on specially constructed analog computers based upon Ohms Law, although certain physical difficulties in the construction and operation of such computers limit their applicability in the investigation of particularly complex problems.

---Jerome D. Fellmann

The Role of Value Judgments & Programming in Geography

The panel discussion was opened by Chairman Peter H. Nash, Associate Professor of Planning at the University of North Carolina, who stated that this meeting was an outgrowth of the discussions following a paper on "The Responsibilities and Limitations of Geographic Field Work" at the 1958 annual meeting of the Association. Dr. Nash remarked that although programming, prediction, and forecasting are not a basic aspect of any science, the scientist has an obligation to society to make his research available and to shape some of it occasionally to render it usable. The geographer has special responsibilities in those aspects of his science where interpretations and explanations are more comprehensive than if they were carried out by non-geographers. Dr. Nash also maintained that we have to crystallize our value judgments and working biases in order that we may be significantly involved in the planning process. Geographers know what they don't know, including various aspects of uncertainty and probability; based on empirical data and practical experience, their hunches and intuition are frequently of significant value in programming. Although the geographer does not generally get involved in the planning process as such, he is equipped to predict trends and to give advice as well as factual information. The fundamental controversial question then is: What is the role of value judgments and programming in geography? Four panel participants expressed themselves on this question.

Patrick J. Cusick, Jr., Executive Director of the Pittsburgh Regional Planning Association, took the position that value judgments and prediction have no place in geography. From the pragmatic viewpoint of the practicing

planner, who is an "applier" of knowledge, as distinct from one whose principal activity is pushing back the frontiers of knowledge, he contended that there is a need for people who can conscientiously, unbiasedly and skillfully develop and report the facts without getting involved either in their ramifications or attempting to foresee their futures. Mr. Cusick maintained that, should the geographer add these aspects to his approach, he would probably do so at the expense of his basic function. Further, he would probably not perform them as capably as they are presently carried out by others, and the net result would be that we would all be the poorer.

Walter Isard, Professor of Regional Science at the University of Pennsylvania, saw the geographer as one of many scientists involved in the broad field of regional science and limited his functions primarily in terms of fact gathering, observation, and description. Involvement in programming demands specific training and skills, especially along mathematical lines. Such aspects as farm production, housing, and power must be described quantitatively, especially in terms of dollars, since they are split region-wise and must be organized into inter-regional social accounts. These balance sheets must be programmed, and the geographer can assist in clarifying magnitudes and projections. Above all, Dr. Izard stressed the need to clarify basic values all along the line, which in turn are utilized to define goals.

Professor Jean Gottmann of the Institute for Advanced Study at Princeton, N.J., and the Twentieth Century Fund, stated that geography has been recognized as a useful foundation for forecasting and programming. In fact, since early days, geographical data have been systematically gathered and classified to help very practical pursuits: first of all, navigation on land and sea. Geographers did not always have first hand information on the areas they showed on their maps and charts. Dr. Gottmann discussed how much forecasting was done in old times. For instance the "predication" of Terra Australia Incognita on the old atlases was based on an erroneous idea of the earth's balance; however, it led in the eighteenth century to the useful discovery of Australia, New Zealand, and the Antartic continent. The fear of being "perhaps wrong" should not deter geographers from forecasting and programming. Dr. Gottmann pointed out that predictions "may be useful while wrong too." Geography cannot be truly "experimental," and he said that our way to experiment is in such deductions, projections and forecasts, and that these are "always worthwhile when formulated with care and common sense."

In a self-appointed role as devil's advocate, Dr. David Lowenthal, Research Associate of the American Geographical Society, cautioned against research motivated by goals other than curiosity and a zest for discovery, investigation, and analysis. Complete objectivity is, to be sure, unattainable by anyone: the perception, selection, ordering, and presentation of data are necessarily subjective and idiosyncratic; geographical work and thought, invariably reflect personal and cultural values. But the scholar who perceives his own biases is best able to approximate a true picture of the world. Dr. Lowenthal then urged that values be studied as a part of geography, for men's passions and prejudices are

crucial determinants of the cultural landscape.

These presentations were followed by 45 minutes of discussion with some challenging and thought-provoking questions from the floor. Hope was expressed by many of the participants of this well-attended session that this philosophical and methodological discussion would be continued at future meetings along specific lines.

---Peter H. Nash

Applied Political Geography

The panel as well as the audience felt it desirable to define Applied Political Geography. After a short discussion a general consensus was reached that a modification of Hartshorne's definition of geopolitics was suitable: Applied Political Geography is that area of the field where results tend to go beyond that of pure academic research. This neither implies nor means any lack of or reduction in scholarship, but does suggest that the research takes a specific point of view. Under this definition, a wide variety of studies is being done, both in and out of government at national and local levels. The panel confined itself to a discussion of the world problem area of applied political geography.

In this area it was suggested that we are limited in our thinking by the traditional language of global analysis. Terms such as Heartland or Rimland, Sea Power or Continental Power have become stereotypes and appear to lead to confusion and often unfounded sweeping generalizations which have no basis in present day realities. The complexity of the emerging world patterns requires a more analytical approach. A discussion of methodology and approaches to these problems followed. The views of Ratzel, Hartshorne and Jones, and those of the panel were presented and considered. Similarities among these indicated a possibility of achieving a standard approach, but the great variations in types of problems encountered in the field made this seem unlikely. The discussion concluded with an expression of the desirability of continued work in the methodology of applied political geography, but that the many current world problems should have a higher priority among students of the field.

---Fred E. Dohrs

Call for Papers for Dallas Meeting

The program for the AAG Annual Meeting in Dallas will include invited and voluntarily contributed papers. Abstracts of all papers must be in the hands of the Program Chairman, Harry E. Hoy, Department of Geography, University of Oklahoma, Norman, Oklahoma not later than December 1, 1959. The abstract should not exceed 250 words in length. The program committee plans to restrict the number of papers to be included in the program. Since the abstract is the sole basis for judging and selecting the paper by the committee, it should properly reflect the actual

content of the paper. The author should make certain that there are no typographical or other errors in the abstract since little time is allowed for editing before the printing of the abstracts in the program.

Rules governing preparation of abstracts are:

1. Abstracts must be typed and must be submitted in triplicate.
2. The original must be on good weight bond paper, $8\frac{1}{2} \times 11$ inches.
3. The name of the author, together with his affiliation or address, must appear on the upper left margin of the first page. The name should be in upper case letters.
4. The title of the paper should begin two lines below the author's name and at the left margin. It should be typed in caps and lower case and should be underlined.
5. The body of the abstract should begin two lines below the title and should be typed with paragraph indentations.
6. The abstract must be double spaced with reasonable margins.
7. The abstract is not to exceed 250 words.

Most of the program will consist of uninvited papers that will be arranged into individual sessions by the Program Committee. Not more than 15 minutes can be granted for the presentation of a paper. Adequate time will be reserved for discussion of each paper. No person can be granted the privilege of presenting more than one paper.

Concurrent meetings will be arranged for certain sessions. Several plenary programs are being planned. Papers not selected for presentation during a regular session will be listed in the program to be read by title.

To facilitate planning so that the program can be printed in the January 1960 issue of The Professional Geographer, it is urgently requested that abstracts be submitted at your earliest convenience. The committee encourages the presenting of papers which express new ideas, new concepts and new interpretations.

---Harry E. Hoy, Program Chairman

Dallas Field Trips

Four field trips have been scheduled for the 56th Annual Meeting of the Association of American Geographers which will be held in Dallas from April 18 through April 21, 1960, with Southern Methodist University as the host institution.

An urban tour in Dallas and surrounding area has been set for Sunday afternoon, April 17 and may be repeated if there is sufficient demand on Wednesday afternoon, April 20. The Local Arrangements Committee for the convention has responsibility for the trip's supervision.

A trip into the Arbuckle Mountains and other areas of southern Oklahoma and north Texas has been planned for Monday, April 18. This trip will visit Lake Texoma and Dennison Dam, the Turner Falls and Arbuckle Mountain area, and Lake Murray. Opportunity will be offered to view glass sand, dolomite pits and other economic activities, but emphasis will be placed on observation of the unique land formations of southern Oklahoma.

About one hour will be spent at: Turner Ranch, Platt National Park, and the Turner Falls-Arbuckle Mountain area. This tour, of special interest to physical geographers, will be supervised by John W. Morris, University of Oklahoma. The cost, including meals and transportation, will be $8 or $9.

On Thursday, April 21 and Friday, April 22, a field trip of particular interest to economic geographers has been planned to Houston, Texas City, Galveston, and Freeport. This trip takes two days and one night (over-night at Galveston). Approximate cost is $37.50 (lodging, six meals, and transportation to Houston and return to Dallas). The schedule includes a trip on the Houston ship channel (with views of refineries, petrochemical plants, a steel mill, a large paper and pulp mill, and other industries), a visit to Texas Gulf Sulphur operations at Newgulf and the J. D. Hudgins Ranch (Santa Gertrudis and Brahman cattle), a guided tour of Dow Chemical Company at Freeport, visits to Texas City and Galveston, and a trip through the Houston residential area. Arrangements are being made by J. Edwin Becht, University of Houston. The Blacklands, Post Oak Belt, and Gulf Coast Plain will be crossed on the journey. Southbound route is via Waco, Cameron, La Grange, Newgulf, Freeport, and Galveston and return via Houston, Bryan-College Station, Mexia, and Corsicana.

Lorrin Kennamer and Robert M. Taylor, University of Texas, are in charge of a two-day field trip to the Kerrville, San Antonio, and Austin areas on April 21 and 22. This trip, the most scenic of the Texas tours, will visit the Central Texas Hill Country. The night will be spent at Villa Camille, a picturesque and comfortable lodge at Hunt. Specifically, it includes the Highland Lakes Country, power and flood control dams on the Colorado River of Texas and associated recreational activities, the old historic German settlement at Fredericksburg, peach orchards in Gillespie County, the sheep and goat country of the Edwards Plateau (with a stop at a typical goat ranch), the dude ranch and resort area at Kerrville and Bandera, and brief visits in San Antonio, Austin, Temple, and Waco. Participants will see parts of the Grand Prairie, Llano Basin, Edwards Plateau, and Blacklands. Opportunity to view the Balcones Escarpment and the Blacklands from University of Texas tower will be provided. Different routes will be followed on the trip to Kerrville and return. This trip will cost approximately $26 including transportation to and from Dallas, all meals, and lodging at Villa Camille (two persons to a room).

All field trips, except the Dallas urban trip, must have a minimum of 30 participants and reservations must be made by March 18. If 30 participants for a particular trip have not been signed up by the deadline, the excursion will be cancelled. A deposit will be required.

A detailed trip schedule and reservation information will be mailed to AAG members in late December or early January. Questions concerning field trips should be sent to the Committee chairman, Stanley A. Arbingast, Associate Professor of Resources and Assistant Director of the Bureau of Business Research, Box 8031, University of Texas, Austin 12, Texas.

---Stanley A. Arbingast, Chairman
Special Field Trip Committee

PERSPECTIVE ON THE NATURE OF GEOGRAPHY

by
Richard Hartshorne

This monograph is published in book form for the Association of American Geographers through the interest and support of Rand McNally & Company

Chapter headings cover such basic questions and topics concerning the nature and purpose of geography as:

What is meant by geography as the Study of Areal Differentiation?

What is mean by the "Earth Surface"?

Is the integration of heterogeneous phenomena a peculiarity of geography?

What is the measure of "significance" in geography?

Must we distinguish between human and natural factors?

The dualism of physical and human geography

Time and genesis in geography

Is geography divided between systematic and regional geography?

Does geography seek to formulate scientific laws or to describe individual cases?

The place of geography in a classification of the sciences.

201 pages, hard binding, Chicago, 1959. $5.00.

RAND McNALLY & COMPANY

ANNOUNCEMENTS & REPORTS

Albert J. Nystrom Memorial Fellowship for Advanced Study in Improving the Teaching of Geography in Elementary and Secondary Schools

This fellowship, established in memory of Albert J. Nystrom by the company which he founded, is intended to encourage students who seek to improve the teaching of geography in elementary and secondary schools.

It is open to students in institutions in Canada and the United States having the following qualifications:

1. Completion of all or most of the language and course requirements leading to a Doctor of Philosophy or Doctor of Education degree; and
2. An acceptable program for research and writing leading to a dissertation in some aspect of the teaching of geography.

The recipient is expected to devote the fellowship period largely to research and writing of the dissertation.

The fellowship award is $2,400 for one year and normally will not be granted to a given recipient for more than one year.

The recipient may select the department of geography in which he wishes to pursue his advanced study provided the department of geography within the university selected offers opportunities for advanced study in the teaching of geography, or the school of education in cooperation with the department of geography offers such opportunities.

The A. J. Nystrom Company stands ready to assist in publication of the research results if it seems suitable to do so.

Applications must be received by January 15, 1960. The award will be announced on March 15.

Applicants should request the necessary application blanks from The Secretary, Association of American Geographers, The Library of Congress, Washington 25, D.C.

L. Dudley Stamp Honored

On the occasion of the 50th Anniversary of the Stockholm School of Economics (Handelshogskolan i Stockholm) His Majesty the King of Sweden approved the conferment of the Honorary Degree of Doctor of Economics on Professor L. Dudley Stamp for "fundamental research in regional geography to the benefit of economic life and community planning."

This is the first time that such an Honorary Doctorate has been conferred on a geographer.

The picturesque traditional ceremony took place in Stockholm's famed City Hall. Professor Gerhard Tornquist placed on the head of each Doctor,

arrayed in full evening dress with medals and decorations, the traditional tall silk hat with gold faculty symbol, and a gun boomed out in salute from a gunboat of the Swedish navy (the shell-case being afterwards presented to the Doctor). He placed the gold Doctor's ring on the wedding finger of the left hand, and presented the diploma. The medieval pageantry provided by tall blonde Swedish students of both sexes bearing banners and flags in escort of the professorial procession would be difficult to parallel in the somber world of today, as would the atmosphere of the four-hour banquet which followed.

Reading List

"Basic Readings in Geography", an annotated list of important materials and reference sources recommended especially for the Doctoral candidate in Geography, published by the Department of Geography at Syracuse University in January 1959, has been revised. Designed to assist the Doctoral candidate in his choice of reading materials, this list provides some basis for making a wise selection of these materials. The revised edition may be obtained from the Department of Geography, Syracuse University, Syracuse 10, New York at one dollar per copy.

Postdoctoral Study in Statistics

Awards for study in statistics by persons whose primary field is not statistics but one of the physical, biological, or social sciences to which statistics can be applied are offered by the Department of Statistics of the University of Chicago. The awards range from $3,600 to $5,000 on a nine months' basis or $4,400 to $6,000 on an eleven months' basis. The closing date for application for the academic year 1960-61 is February 15, 1960. Further information may be obtained from the Department of Statistics, Eckhart Hall, University of Chicago, Chicago 37, Illinois.

Foreign Field Research Program

The Foreign Field Research Program is designed to assist doctoral candidates or recent recipients of the doctorate to do research abroad. Transportation and expenses for field studies of six months or more are supplied by the sponsors. Thirty-seven awards have been made in the four years since the program was initiated, with financial support from the Geography Branch, Office of Naval Research. Deadline for the receipt of applications is December 1, 1959. Results of the competition will be made known to the applicants by January 1, 1960. Information and application forms may be obtained from Foreign Field Research Program, Division of Earth Sciences, 2101 Constitution Avenue, Washington 25, D.C.

XIX International Geographical Congress

Have you received the Second Circular about the Congress?

It is about the size of The Professional Geographer, but has a gray and purple cover. Enclosed with it are application forms for (1) participation in the Congress; (2) excursions and symposia; and (3) accommodations and participation in the general cultural and tourist programs. Copies of Second Circular were mailed from the IGU headquarters in Stockholm directly to many AAG members, but an additional supply is enroute to the U.S. National Committee for further distribution. If you want one, please send a letter or card to the AAG Central Office, 1785 Mass. Ave., N.W., Washington 6, D.C. and a copy will be sent to you without charge.

Dates to be Remembered

1959

November 1 . . . Last date for abstracts
Last date for excursion E.N.4 (Fjords)
Last date for symposium S.N.2 (Tromso)

1960

February 1 . . . Last date for registration
Last date for application for accommodations in Stockholm

April 1 . . . . . Last date for papers (but none will be accepted if abstract was not turned in before November 1)

June 1 . . . . . Excursion and symposia fees to be paid

August 5-6 . . . Registration at the Congress Bureau (Folkets Hus, Barnhusgatan 14, Stockholm)

Travel Grants and Subsidies

A sub-committee of the U. S. National Committee for the IGU is seeking all possible aid for U. S. participation in the Congress. The subcommittee has been assured that:

1. The Social Science Research Council will provide about five grants for travel. Requests for application forms should be addressed to Mr. Elbridge Sibley, Executive Associate, Social Science Research Council, 230 Park Ave., New York 17, N.Y. The grants will be confined to geographers who are active in research in economic and social aspects of the discipline.
2. The American Council of Learned Societies will provide six grants paying round trip air coach fare for those who can provide evidence of active participation in the Congress, either through presentation of a paper or chairing a meeting, and who are recommended by the AAG. Applications should be addressed to the Secretary of the AAG and should contain a full statement of financial needs, extent of participation in the Congress, and if possible an abstract of the paper to be presented.

The AAG Council will serve as the screening committee for these grants. Preference will be given to those who are working in the human and social aspects of geography.

3. The National Science Foundation will provide a number of travel grants (round trip air coach fare), but the procedure for application is not clearly established at present. A further announcement on this will appear in a later issue of The Professional Geographer.
4. The Office of Naval Research will provide transportation for a large number of contractors who will be presenting papers at the Congress.
5. The AAG will grant three Participation Fellowships to young geographers who prepare the best papers for presentation at the Congress. Contestants must not have reached their 36th birthday on the opening date of the Congress; and must have been members (or associates) of the AAG prior to March 30, 1959. Contest papers should be submitted in triplicate to the Secretary of the AAG for screening by a special selection committee on Participation Fellowships.

Additional grants are being sought from government agencies, map and book publishers, and a variety of other sources.

All who will participate actively in the Congress program and who need travel subsidy should write to the Travel Grants Sub-committee, U. S. National Committee for the IGU, National Academy of Sciences, 2101 Constitution Ave., N.W., Washington 25, D.C. and state:

1. Extent and nature of your participation in the Congress.
2. Financial support required.

NEWS FROM GEOGRAPHIC CENTERS

Valparaiso University

Ferencz P. Kallay, who joined the geography staff two years ago, was awarded a Fulbright Scholarship for the coming year for field research on population problems in Sardinia. While abroad, he will also lecture in Italian at the University of Rome and Cagliari in the spring of 1960.

Elmer B. Hess, who likewise joined the staff two years ago, is continuing his doctoral program at the University of Chicago. In collaboration with Alfred H. Meyer, departmental chairman, a paper was prepared on field studies of "Gary Manufactural Design and Destiny," published by the Indiana Academy of Science in its Proceedings.

Edward J. Miles, who joined the staff a year ago, served as summer guest lecturer at the University of Manitoba. The chairman of the department likewise lectured at Portland State College during the summer term.

William Kowitz, candidate for the doctorate at Northwestern University, has started on his doctoral dissertation project.

John W. Kunstmann, who is also engaged on a doctoral dissertation project at Northwestern, has been engaged to fill the temporary vacancy created by Kallay's absence on the Fulbright project.

John Strietelmeier, who retired from the department last year as a result of his appointment to the University Press editorship, is collaborating with the chairman on a textbook writing project. The chairman has continued to serve as chairman of a committee making a self-survey of Valparaiso University.

Approximately 50 geography majors and 45 geography minors were enrolled in the department during the past year.

Southern Illinois University

As the result of both a change in the chairmanship and a major shift in staff personnel, the department has a very different look as the new academic year begins. It is hoped that this new look will not only strengthen departmental work in its undergraduate program but will form the basis for the development of a major graduate department of geography.

After 30 years as a departmental chairman - 19 at Florence, Alabama and 11 at Southern - Floyd Cunningham asked to be relieved of the duties so that he might devote more time to research and personal interests. Therefore, Robert Harper assumed the responsibilities of chairman with the beginning of the spring term. In line with his interests, Dr. Cunningham becomes director of a new laboratory of climatology, which represents the consolidation of several departmental studies in climate.

Five new staff members begin duties with the fall term. Wilbur Zelinsky joins the staff as Professor from his work as Industrial Analyst for the Chesapeake and Ohio Railway. Professor Zelinsky will offer courses in Anglo-America and historical geography and will introduce departmental work in his special fields of interest: population geography and air photo interpretation. Joseph Velikonja comes to Southern as Assistant Professor from a year of post-doctoral study at the University of Chicago and teaching at Elmhurst College and the University of Chicago College. A native of Yugoslavia with a Ph.D. from the University of Rome, he will strengthen departmental work in Europe and the Soviet Union as well as in cultural geography. Assistant Professor Theodore Schmudde from the University of Wisconsin will offer work in physical geography and field methods and will reinstitute study of soils geography, a special interest of his. Assistant Professor Frank H. Thomas from Northwestern University will bolster departmental work in economic geography, particularly in transportation and urban geography. Howard Stafford, Jr., Ph.D. candidate at the University of Iowa, new Lecturer will teach undergraduate courses in economic and regional geography.

In addition to Cunningham and Harper, four members of the department remain from last year's staff. Associate Professor Annemarie Krause continues to offer work in Latin America, economic geography, and the teaching of geography; Associate Professor Marjorie Shank teaches conservation and serves as advisor to undergraduate students in the College of Liberal Arts and Sciences; Assistant Professor Ronald Beveridge handles departmental work in cartography and political geography; and Lecturer Patrick Tyson teaches undergraduate courses in physical geography and climatology.

There will be 11 graduate assistants in the department this year including students from Columbia University, University of Missouri, University of Illinois, Augustana College, Oklahoma State, Indiana State Teachers of Pennsylvania, Westfield Teachers of Massachusetts, Northeastern New Mexico University; and the Free University of Berlin. Seven students in geography were awarded Master's degrees at the August convocation. Several will continue studying toward the Ph.D. at other institutions. Carmen Harper goes to the University of Chicago, George Demko to Pennsylvania State, Robert Holz to Michigan State, Robert Pinkerton to Kansas, and Ronald Nelson and J. N. Kapur to Nebraska.

Charles Colby returned at the beginning of the summer after a visit to the University of Arizona and a quarter at Michigan State to resume his leadership of the University-wide Mississippi Valley Investigations. The summer research program included studies of conservancy law, the ecology of the Lower Wabash, labor-management relations, economic history, and physiography. Professor Colby, Mitchell Zadrosny of Wright Junior College, Robert Harper and five graduate assistants worked on the geography of the Lower Ohio Valley. As part of the Mississippi Valley Investigations the University has established a cartographic shop to provide mapmaking services for researchers in all departments. Daniel Irwin, graduate in geography from U.C.L.A., is the new director, coming from

a position as head of a drafting section for the System Development Corporation of Santa Monica, California. Ronald Beveridge of the department will serve as advisor to the cartographic shop.

LETTERS . . .

Dear Editor:

Further to my letter of April 2nd 1959 I am glad to inform you that I have had a letter from Air Ministry S4(e) saying that the Royal Air Force had been able to resume the production of prints for civil purposes, to a limited extent, at the end of 1958 and that most of the back-log of orders which then existed has now been cleared. The rest will be processed in a few more months. Orders can now be accepted immediately for photographs "where the sortie and print numbers are known to the orderer although there is still a delay of several weeks in delivery." . . . "Enquiries which involve cover searching have to take their place at the end of the list." It is hoped that in a few months time unless unforeseen difficulties arise the Royal Air Force will be able to deal with all enquiries as and when they are made, and that they will be able to supply prints within a few weeks. Before the recent stoppage a "few weeks" meant five or six weeks.

The charges for prints have been revised with effect from January 1959 and the current price for contact prints of the usual size, 9" x 7", supplied for educational and research purposes to staff and students of universities and schools and to Learned Societies and their members is three shillings and sixpence (about fifty cents) each. The charge to members of the general public for contact prints is six shillings (a little over 85 cents) each. There is also a scale for the supply of enlargements up to 40" x 40". The cost of posting and packing is now added to all orders and accounts are sent some months after the delivery of orders.

All enquiries for prints and enlargements should be addressed to: The Under Secretary of State for Air, Air Ministry S4(e), Whitehall Gardens, London. S.W.1. England.

It gives me great pleasure to be able to report this renewal of service.

Alan D. Walton
University College of North Staffordshire

Dear Editor:

Al Ballert inadvertently started it when he titled his article, which referred to financial journals containing geographic material: "Off-beat Geographic References" (The Professional Geographer, September 1958). In the next issue Yi-Fu Tuan chimed in to state there were "off-beat" sources other than financial papers; take Sir Kenneth Clark's Landscape into Art, for example (The Professional Geographer, November 1958). This proved to be equally irresistible to Kenneth Fagg (The Professional

Geographer, January 1959) and E. Joan Miller (The Professional Geographer, May 1959), both of whom are artists and geographers.

Fagg took the position that we should exercise more art in geography, particularly cartography, while Miller revealed that her personality was quietly but surely being split by her art mentors, who insisted she use balance, grouping and color, and her geographic training which demanded exactness. Miss Miller then complicated matters by gratuitously providing the correct but nevertheless provocative suggestion that photography provides a more accurate geographic tool than landscape painting. At this point, R. Heathcote could contain himself no longer (The Professional Geographer, July 1959). From the ivy towers at Lincoln, Nebraska, he wrote, (1) that "to suggest that photographs have a greater value to geographers than paintings is a little unrealistic," (2) that "they are as good or as bad (objectively speaking) as the photographer," (3) that "photographs may lie.....and are.....valuable tools for propaganda purposes," and (4) that "objective interpretation of photographs is as difficult as that of landscape painting..."

This brings us up to date with a full year of Gilbert and Sullivan type controversy. Now, as a member in solvent status, though somewhat dubious professional standing, I would like to join the fun.

Until Heathcote's letter appeared, no real technical differences of opinion had been expressed. Ballert was an innocent bystander; Yi-Fu Tuan mentioned art as another "off-beat" source; Fagg suggested that geographers become more artistic in the cartographic approach, particularly from the air-view; and Miller revealed her dichotomous difficulty with landscape paintings, presumably from the conventional ground view. It was Miss Miller's parting shot that she suspected "the camera-hung artist does a more accurate job, geographically," which must have set off Heathcote, who came charging in with several excellent comments and the few incorrect impressions which are cited above and discussed below.

First, in any given problem, either a painting or a photograph may be of greater importance. The paintings and sculptures of the ancient civilizations often provide the only significant source of priceless geographic information of a time when photographs and even maps were unknown. Conversely, no amount of landscape painting could contribute to the solution of the geographic problems of the Census Bureau, the Soil Survey, or the Armed Forces which are so readily solved by photogeography. In the total sum of geographic problems, however, photography appears to be the more valuable tool, for ground landscape photography is used by essentially every geographer and the analysis of aerial photography is rapidly becoming indispensable in many of the geographic disciplines.

Secondly, it is not wholly true that photographs are as good or as bad as the photographers. More important than the photographer is the geographer--photo interpreter who is responsible for selecting, analyzing and captioning the photographs.

Thirdly, photographs, like paintings, never lie, only some of the photographers, the artists and people who employ these media.

Finally, the interpretation of landscape photographs, particularly air

photos, is much less difficult than the interpretation of landscape paintings if for no other reason than the artist's mental state is unknown, whereas the focal length of the lens, the characteristics of the emulsion, the type of filter and other factors which influence the photograph are typically recorded. Unlike landscape paintings, photographs frequently present the landscape in three dimensions and give uniform coverage of landscape for thousands of square miles.

In summary, most geographers will agree that photographs are more objective than paintings and are more consistent in their objectivity. In addition, there are certainly fewer subjective differences between photographs of the same landscape than between paintings of that same landscape. Furthermore, the amount of geographic information in landscape photographs, particularly three dimensional air photos, is much greater than in landscape paintings, and artistic skill is not required in order to extract it. Moreover, the millions of aerial and ground photographs currently being used in geography and cartography (as opposed to the significant but very limited number of landscape paintings) speak for themselves, as do the thousands of scientists trained in photo interpretation.

Now let's get back to Al Ballert's thesis and recommend, by letter or article, some other "off-beat" sources of geographic material.

John H. Roscoe
Lockheed, Missiles & Space Division

Jobs for Foreign Geographers

The Placement Committee is currently serving two groups of geographers: AAG members (Americans and Canadians) who are interested in securing new jobs and employers who have jobs to be filled. In the past few years a third type -- the foreign geographer -- has increasingly asked aid and advice from the Committee. Some of our foreign correspondents have already become active AAG members. Others are qualified for membership but have encountered difficulties, commonly of a financial or political nature, so they have received only limited service from the Placement Committee. On the other hand, some job openings in the United States have required training and experience not commonly available among Americans, but access to people with such qualifications has been restricted. The Committee has therefore decided to maintain a file of foreign geographers who have expressed a desire to secure either permanent or temporary positions in the United States. Although the file is small, about ten countries are now represented. Brief resumes of the education, training, experience, and national background of all the geographers listed in the file have been prepared and will be sent to potential employers on request. If an employer is interested in a specific person, the Placement Committee will provide his address and, in most cases, supply additional information concerning his qualifications.

---W. Whipple Abbe, Chairman
Placement Committee

PERSONAL NEWS

Leslie Hewes, on leave from the University of Nebraska, has completed a year as Fulbright Lecturer in Geography at the University of Vienna, and has given lectures at University College (London), University of Southampton, University of Hull, University of Liverpool, Stockholm School of Economics, Hockschule fur Welthandel (Vienna), Geographical Society of Vienna, Amerika Haus Salzburg, Amerika Haus Innsbruck, and Amerika Haus Vienna. He returns to Nebraska in September.

Richard E. Murphy has left George Washington University to become Associate Professor of Geography at the University of Wyoming in Laramie.

Robert B. Johnson has left the Advanced Concepts Group of the Itek Corporation to accept a position with General Electric Company's Technical Military Planning Operation (TEMPO) in Santa Barbara, California.

Earl Shaw, recently retired from State Teachers College in Worcester, Mass., will be at the University of Delaware for the fall semester.

Herbert Wilhelmy of the University of Tubingen is visiting Professor of Geography at the University of California, Berkeley, for the 1959-60 academic year. Formerly at Stuttgart, he was recently appointed to the chair at Tubingen to succeed Hermann von Wissman, retired.

James J. Parsons, University of California, Berkeley, has been named to the Advisory Board of the Hispanic-American Historical Review, and is currently doing field work in southern Spain and Portugal as a Guggenheim fellow.

Fritz Kramer, Assistant Professor of Geography, University of Nevada, has been appointed chairman of the Nevada State Parks Commission.

Simon Baker has recently returned from Ceylon where he was conducting research under a grant from the Foreign Field Research Program of the National Research Council, and is presently working part time for the Worcester Planning Department while completing his Ph.D. at Clark University.

Richard Edes Harrison and John A. Morrison will be visiting faculty members in the department of geography at the University of Pittsburgh during two 1959-60 trimesters.

Herbert L. Rau, Kansas State University, has been granted a Fulbright scholarship to Brazil for eight months to lecture on regional and economic geography of the United States.

NEW PUBLICATIONS

Population and Progress in the Far East. Warren S. Thompson. University of Chicago Press. Chicago. 1939. ix and 443 pp. illust. $7.50.

In his newest volume, Warren Thompson, one of the deans of American demography and a long-time observer of the Far Eastern scene, has furnished us with a thorough revision of his earlier Population and Peace in the Pacific (1946) and a distillation of many years of travel, reading, and thinking about the population problems of the area. This provocative work is permeated with the author's belief in the close inter-relationships between economic and population characteristics -- the thesis that material progress and profound demographic change are mutually dependent and inseparable.

After a brief introductory section dealing with the history and causation of recent world population growth and the basic factors controlling economic development in the Far East. Thompson chronicles the demographic, agricultural, and industrial evolution of Japan at some length. Although it has made the transition from sequestered kingdom to advanced industrial civilization more rapidly and successfully than any other nation within the study area, the author's speculations about Japan's future are tinged with more than a slight degree of apprehension. There are equally detailed and up-to-the-minute essays on the demographic and economic processes at work in China and India, with conclusions that are even less reassuring. The chapters that follow on Pakistan, Ceylon, the Indochinese nations, Taiwan, Korea, the Philippines, and Indonesia are considerably shorter, but penetrating and highly informative. The constant reiteration of the urgency of the intertwined economic and population crises confronting most of the nations covered in this study, the lack of any easy remedies, and, hence, the gloom that pervades much of the book may make it a controversial item for some readers; but its large sweep and the enormous amount of factual material concentrated here and organized in highly readable form will make this work indispensable for anyone seriously concerned with either the geography of the Far East or the field of population science. The geographic aspects of the region are, incidentally, handled with a finesse rare in the non-geographer.

---Wilbur Zelinsky

An Outline of Photogrammetry. K. Schwidefsky, translated into English by John Fosberry. Pitman Publishing Corp. New York. 1959. x and 326 pp. illust. $13.00.

This is an excellent translation of a German book on photogrammetry which originally appeared in 1936 under the title Einfuhrung in die Luft- und Erdbildmessung, and which has since been enlarged and brought up to date under the new title Grundriss der Photogrammetrie (latest edition

1954). It is the second photogrammetrical treatise in German to be translated and published in English. The first was the famous Photogrammetry, Collected lectures and essays, edited by the late O. von Gruber, and published in 1932.

The book covers the theoretical and engineering aspects of photogrammetry briefly and concisely. Mathematical arguments are kept to a minimum, but the reader is directed by means of a selected bibliography and numerous footnotes to the more detailed technical literature. The treatment of the history of the subject is well organized and an effort has been made to include the photogrammetrical developments and practices in other countries besides Germany. Nevertheless, it seems to this writer that the original contributions of individuals outside of Germany are rather played down. (Perhaps this is to be expected in a German book.) For example, scant, if any, tribute is paid to such distinguished workers as Earl Church, H. G. Fourcade, M. Hotine, and E. H. Thompson, and their names have, without exception, been excluded from the index.

To those geographers who wish to know more about modern photogrammetry, this book can be recommended. Its style is simple and direct and much of it can be easily digested by those having little mathematical or engineering background.

---O. M. Miller

From Community to Metropolis, a Biography of Sao Paulo. Richard M. Morse. University of Florida Press. Gainesville. 1958. xviii and 341 pp. illust. $7.50.

Sao Paulo, with an estimated population of 4,700,000 by 1964, is one of the leading industrial centers of Latin America and one of the fastest growing cities in the world.

Through travel and research grants from the U. S. State Department and Columbia University, Dr. Morse, assistant professor of history at Columbia University, was able to study in Brazil from September 1947 to December 1948. As a result of his research, he has written this interesting comprehensive biography of Sao Paulo from its early growth to the present with a look to its future. Although the major portion of the treatise is devoted to its history, he has interwoven a wide range of material in the economic, cultural, sociological, demographic and some geographic phases to portray the emergence of a nucleated urban order within the agrarian patriarchal Brazil.

The book is in four parts. Part I, "Colonialism and New Stimulants", discusses the shape and life of early Sao Paulo "city" (a title bestowed in 1711), and endowments from national independence. History and a short geographic basis for the cultural features in the early city are given. New developments after the declaration of Brazilian independence in 1822 included the Law Academy, the public press, and urbanmindedness of the new provincial presidents, all parts of a developing city culture. The material in Part II, "Formation of the City Mind", ranges from the postcolonial malaise through the Revolution of 1842, followed by a cultural awakening, material fulfillment and the importance of coffee culture. This

period, approximately 1830-1845, might be thought of as one of considerable unrest followed by new sociological, literary and religious aspects more promising for the growth of Sao Paulo. The discussion on coffee presents geographic conditions essential for successful production, and problems associated with the industry. Part III, "City Growth", traces changes from a city with little outside communication to the development of better streets, roads, animal drawn street cars and railroads. Improved educational facilities, economic expansion, immigration and new rail connections with Santos, Rio de Janerio and other places were instrumental in expanding industries and city growth. Part IV, "The Modern Age", discusses the modern temper, industrialism, the metropolis as a polis, modernism and the anatomy of the metropolis. This section has perhaps most of interest to the geographer. The author says "the pattern of the city's growth has been determined by the basins of the Tiete and Tamanduatei to the north and east and by the high ridge to the west and south." New topographical determinants are being encountered as the city encroachs the Pinherios valley and the Cantariera hills. The phenomenal growth, the lack of planning, and the problems of Sao Paulo are similar to our own cities.

Dr. Morse does not use bibliographical footnotes but includes a good bibliography at the end of the book. He concludes each chapter with a bibliographical note in which he reviews the more general sources that may not have been cited in the text. These can be very helpful to the reader and student. The book is well written, contains much valuable information and sources useful to historians, geographers, economists, and anyone wishing to know more about Sao Paulo and its significance as a metropolis.

---Esther S. Anderson

Contemporary Sociology. Joseph S. Roucek, ed. Philosophical Library, Inc. New York. 1958. xii and 1209 pp. $12.00.

One of the more noteworthy trends in the recent literature of the social sciences has been the appearance of a series of large, collaborative surveys of the accomplishments and current status of the individual disciplines. We may now set alongside the inventories already provided for anthropology, geography, American history, and demography, this impressive overview of the theory and practice of sociology edited by Professor Roucek and comprising a total of 59 chapters contributed by 56 leading American and European specialists. A general framework for this bulky compendium is provided by an introductory essay by Carle C. Zimmerman and a concluding discourse by Pitrim Sorokin in which they review the major contemporary philosophies in the field. The remainder of the chapters are grouped under three headings: those describing the many varieties of sociology pursued within the United States, those detailing the practical applications of the discipline, and, finally, chapters on the status of sociology in each of 23 foreign nations or regions. Each chapter is accompanied by its own bibliography and battery of footnotes, and the volume is also equipped with a comprehensive index. The geographic reader will

find disappointingly few firm points of contact with his own areas of interest, and those mainly in the four essays on population, urban sociology, rural sociology, and human ecology and human geography, while some topics, such as psychological warfare or semantics, are quite remote from the geographic vineyard. Nevertheless, the phenomena studied in geography and its sister discipline of sociology overlap so greatly that many geographers will harbor a natural curiosity as to how their neighbors are coping with their parallel problems. This volume is probably the most convenient way to find out.

---Wilbur Zelinsky

The Historical Geography of St. Kitts and Nevis, The West Indies. Gordon C. Merrill. Instituto Panamericano de Geografia e Historica. Mexico. 1958. 145 pp. illust.

The story of Nevis, and more especially St. Kitts, is in many ways typical of all the islands of the Lesser Antilles. The more than 300 years of English occupation of these two volcanic islands spans the beginnings of settlement, the start and end of slavery, the development of plantations and estates, and the changes from too few to too many people, all tied to the monotone background of sugar. With refreshing clarity, the author describes the physical characteristics of the islands and depicts the various stages of human occupance, and at the same time, those of many other parts of the West Indies. He amply demonstrates that though there have been changes, they are slow in coming and small in magnitude as far as the landscape and way of life are concerned. Within this little volume, geographers of all specialties will find rewards, for it provides an excellent example of scholarly research and good writing, coupled with its important contribution to knowledge of the area.

Living Resources of the Sea; Opportunities for Research and Expansion. Lionel A. Walford. A Conservation Foundation Study. The Ronald Press Co. New York. 1958. xv and 321 pp. illust. $6.00.

This volume, written in the usual competent manner of the author, is divided into two parts. Part I, entitled "The Marine Wilderness," deals mainly with broad topics, such as environment, behavior, and conservation, while Part II is concerned with specifics, such as invertebrate animals, fishes, and seaweeds. The book contains in concise form a great deal of information on an area which has been greatly neglected by many geographers. In the author's own statement, the study was undertaken to determine how the harvest of sea fisheries could be substantially increased for the benefit of humanity. We all know that, because of the increasing population pressures, the exploitation of the resources of the sea is of tremendous importance. The ocean constitutes not only our single most important source of moisture but also our last most important source of food. No major advances in the utilization of its resources have been made for long periods of time. This book should be of great interest to all those concerned with the distribution of both people and food. The

author points out how many problems need to be solved before we can farm the sea. He does not pretend to be able to predict how rich the material rewards will be nor when they will materialize.

Many books are written to summarize our present knowledge of a subject; Walford is more concerned with the gaps in our knowledge. This approach increases the value of this study because it gives the reader both aspects of the field, the known and the unknown. Of particular interest to geographers should be the chapters entitled "Geography" and "Fishes," both of which contain many valuable maps on such subjects as the distribution of fishing grounds, fertile areas of the seas, areas of protein starvation, knowledge of species of fish, and species composition of marine food fauna, to name a few.

---Francis E. Elliott

Sources of State Information and State Industrial Directories. State Chamber of Commerce Service Department, Chamber of Commerce of the United States. Washington. July 1958. 18 pp. $0.35.

Students of American manufacturing geography have long relied almost exclusively upon the various federal Censuses of Manufactures as their basic source of data; but the immense amount of auxiliary material issued by various state governmental agencies, chambers of commerce and development groups, and commercial publishers on the individual states and territories has been largely neglected. Although these items vary greatly in organization, detail, and editorial standards, they frequently offer highly welcome information on the exact location, identity, employment, capitalization, and products of virtually all the manufacturing firms within the given area -- and, more often than not, for intercensal years. In this brief, but valuable bibliography, the U. S. Chamber of Commerce lists all current items for states, territories, and groups of states (but not those for individual cities, and in addition to essential data as to publisher, date, and price, specifies the method of listing (whether alphabetical, geographical, or by product), types of indices employed, and the kinds of information provided. It should be noted that industrial directories of some sort are now available for all states and territories except Alaska, Arizona, and Puerto Rico and that for these and all other jurisdictions, addresses are given where such information as exists may be solicited.

---Wilbur Zelinsky

Santa Maria Ixcatlan. Habitat, Population, Subsistence. Sherburne F. Cook. Ibero-Americana:41. University of California Press. Berkeley & Los Angeles. October 30, 1958. 75 pp., 1 map. $1.50.

California physiologist Cook here continues to express his interest in the interrelationships of soil, water supply, vegetation and human population with especial attention to economy, diet and population changes in areas of extensive denudation and erosion (cf. his Ibero-Americana:34, pp. 22-34). In April of 1939, April of 1948, and July of 1956 Cook spent a total of 20 days studying this isolated highland village of the Mixteca Alta

of northwestern Oaxaca within the Papaloapan Basin. The Mixteca Alta, a three-way watershed, is one of the most denuded and eroded regions in Mexico.

On the basis of several types of evidence available to him, Cook concludes that during the past four centuries there has been not only erosion and soil desiccation but also "a shift in climate toward a lower temperature and lessened rainfall." At present this climate is subarid with great annual variability in the amount of precipitation most of which comes in the late spring and summer. The weaving of the native wild palm fibers into hats constitutes the main industry in Ixcatlan, and the ratio of hat manufacture to maize agriculture (in time and energy expenditure) apparently varies with the conditions for crop production. When crops are good, hat production declines, so Cook concludes that "the nutritional minimum is maintained by adjusting hat manufacture to the agricultural level."

It is most unfortunate that Cook provides very little historical background, and makes no attempt to place Ixcatlan in its past or present political and ecclesiastic contexts. Cook's conclusions about climatic change are erroneous, as can be seen by consulting the sixteenth century relacion geografica (which Cook states does not exist). In the Descripcion de Ixcatlan por Gonzalo Velazquez de Lara of October 13, 1579 (manuscript with map in the University of Texas Library, which has been cited by Cook's colleague Borah) there are numerous pertinent details such as the origin of the place name (which does mean "place of cotton", but not because cotton was formerly raised there), and repeated statements about the lack of water and the dryness of the land.

Althought there is available much more reliable cartographic and descriptive material (including censuses) than Cook allows, this monograph does provide the best description and discussion of the Mixteca Alta palm fiber industry in English.

---Donald D. Brand

Landscape From the Air. F. J. Monkhouse. Cambridge University Press. New York. 1959. ix and 53 pp. illust. $1.75.

Fifty-two oblique air photos, exceptionally well reproduced and carefully selected, illustrate various landforms. The source of each photo is given along with a brief interpretive description and examples of other places that are similar. The arrangement of the photos starts with rock types and structure, and then proceeds through the forms resulting from various earth sculpturing and modifying processes. This should be a valuable aid to physical geography students, and of interest to all who enjoy learning about the landscape.

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